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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,275	03/25/2005	Hans-Juergen Oberle	081276-1063-00	2135

23409 7590 01/19/2007

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EXAMINER	
PILKINGTON, JAMES	
ART UNIT	**PAPER NUMBER**
3682	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,275	OBERLE ET AL.	
	Examiner	Art Unit	
	James Pilkington	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18 and 20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 11/24/06 for a Continued Examination (RCE) is accepted and a RCE has been established. An action on the RCE follows.

Specification

2. The disclosure is objected to because of the following informalities: paragraph 0042 line 33 "annular spring 94" should be - - annular spring 96 - -.

Appropriate correction is required.

Claim Objections

3. Claim 1 is objected to because of the following informalities: the word the should be reinserted between "as an integral part of" and "component" in line 10. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant is claiming that the elastic member is "pre-stressed" however there is no disclosure within the specification as to

how the elastic member is being "pre-stressed". The term pre-stressed implies that elastic member is being manufactured in such a way that allows for structural changes that provide pre-stressing so it can support more load. It appears that the instant applicant does not have any "pre-stressed" elements as there is no disclosure of a structural change in the member that would cause pre-stressing. It appears that the elastic member is being post-stressed, stressed after being inserted in the device, by the cover member 66. Without recitation of any structural changes or elements that allow for the elastic member to be pre-stressed the term pre-stressed, as broadly recited, is a product-by-process limitation.

6. Claims 7 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 7 and 24 recite "the component is an elastic ring element, which is embodied so that it can be compressed causing it to be expanded radially." The specification does not enable for the component to be an elastic ring element that can be compressed to expand radially. The specification enables for the component to be a separate part from the elastic ring element (see Figure 11 and paragraphs 0042 and 0043), the only mention of the component being a ring is found in paragraph 0043 line 4 where it states that "it is preferred that the components be embodied as *circular ring segments.*" It is the separate elastic element that is embodied as a ring so that it can be compressed and expanded radially.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-28 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Clms 1 and 21, it is unclear what the applicant means by radial (radially) since no frame of reference has been established. Radial is defined as being in a direction along a radius of a circle. Where is this circular frame of reference? The figures only show axial frames, axes 30 and 42, does the applicant mean radially with respect to the end of the shaft?

Re clm 22, the phrase "saw-tooth-like" renders the claim indefinite because it is unclear as to how much like saw tooth the element needs to be to meet the limitations. "Formed as a series of steps" does not clarify what is meant by the term "saw-tooth-like." It is understood that saw teeth are nothing more then a series of steps but what do the steps look like? Is the point of the step angled forward or backward? Or are the teeth made with a points of the teeth being centered over each step? What is meant by the word "like," how much "like" any of the profiles disclosed above do the teeth have to be?

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 5-12, 14, 21, 13, 18, 20, 23-28, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Giandinoto et al, USP 3,848,477

Re clm 1, Giandinoto discloses a gear drive unit (Fig 1) with a(n):

- Gear housing (R4/R5)
- Shaft (10)
- Axial stopping face (24)
- Counter stopping face (30)
- Plane (@ character 24)
- Angle of inclination (see Figure 1 below)
- Component (26)
- A pre-stressed elastic element (36), wherein the elastic element (36) is embodied as an integral part of the component (26)

Re clm 5, the component (26) is embodied to be one piece with the one stopping faces (24,30).

Re clm 6, the component (26) is embodied to be U-shaped (Figs 3 and 4; C2-C3) and surrounds a stopping sleeve (42).

Re clm 7, the elastic member (36) is embodied as a ring (a spring is multiple rings connected together) so that it can be compressed and expanded radially (as a spring is compressed there is some radial expansion (see paragraph 6 above).

Re clm 8, the component (26) is embodied to be a 2-step wedge (Figs 3 and 4; C2-C3).

Re clm 9, the shaft (10) features a fore part (22) and/or at least one collar (14).

Re clm 10, the shaft (10) features a worm toothing or thread toothing (R1), and engages in an inside thread (on R2).

Re clm 11, the component (26) can be displaced radially to the longitudinal axis by means of a pre-stressed elastic element (36).

Re clm 12, the elastic element (36) is supported on a covering (38) of the gear housing (R4/R5).

Re clm 14, the component (26) is embodied together with the elastic element (36) as a wedge-shaped wavy leaf spring.

Re clm 21, Giandinoto discloses a gear drive unit (Fig 1) with a(n):

- Gear housing (R4/R5)
- Shaft (10)
- Axial stopping face (24)
- Counter stopping face (30)
- Plane (@ character 24)
- Angle of inclination (see Figure 1)
- Component (26)
- The component (26) being displaced radially by a pre-stressed elastic element (36)

- The component (26) is embodied to be a 2-step wedge (Figs 3 and 4; C2-C3)

Re clm 13, the elastic element (36) is embodied to be one piece with the component (26) (Fig 2). Elastic element (36) is fixed to the component (26) via part 34 making the elastic element (36) and component (26) one part and according to Merriam-Webster's Collegiate Dictionary: 10th Edition the word one is defined as "being a single unit or thing."

Re clms 18, 19 and 20, the component (26) is embodied to be one piece with the one stopping faces (24,30), as a stopping element.

Re clm 23, the component (26) is embodied to be U-shaped (Figs 3 and 4; C2-C3) and surrounds a stopping sleeve (42).

Re clm 24, the elastic member (36) is embodied as a ring (a spring is multiple rings connected together) so that it can be compressed and expanded radially (as a spring is compressed there is some radial expansion (see paragraph 6 above).

Re clm 25, the shaft (10) features a fore part (22) and/or at least one collar (14), with which the shaft is supported on the gearing housing via the component.

Re clm 26, the shaft (10) features a worm toothing or thread toothing (R1), and engages in an inside thread (on R2).

Re clm 27, the component (26) can be displaced radially to the longitudinal axis by means of a pre-stressed elastic element (36).

Re clm 28, the elastic element (36) is supported on a covering (38) of the gear housing (R4/R5).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al '477 in view of Gunner et al, EP0563410.

Re clms 2, Giandinoto discloses all of the claimed subject matter as described above.

Giandinoto does not disclose at least one of the stopping faces having a saw-tooth profile.

Gunner teaches at least one stopping face (41) having a saw-tooth profile (Fig 2) for the purpose of providing better interaction between surfaces and to reduce the wear between the wedge faces.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Giandinoto and provide a stopping face with a saw-tooth profile, as taught by Gunner, for the purpose of providing better interaction between surfaces and reduce the wear between the wedge faces.

13. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al '477 in view of Zoino, USP 4,212,379.

Re clms 3 and 4, Giandinoto discloses all of the claimed subject matter as described above.

Giandinoto does not disclose at least one of the stopping faces being embodied as cone-shaped and having stair step profile (clm 3) or annular stair steps (clm 4).

Zoino teaches at least one of the stopping faces (27) being embodied as cone-shaped and having stair steps (58) for the purpose of allowing a load (force) to be taken at a gradually increasing rate those preventing sudden shock or strain in the system (C1). It is to be noted that a conical clutch and the stopping system in the instant application both relay on friction as a means of varying an output force.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Giandinoto and provide at least one of the stopping faces being embodied as cone-shaped and having stair steps, as taught by Zoino, for the purpose of allowing a load (force) to be taken at a gradually increasing rate those preventing sudden shock or strain in the system.

14. Claims 15 -17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al '477 in view of Zoino, USP 4,212,379.

Re clms 15-17, Giandinoto discloses all of the claimed subject matter as described above.

Giandinoto does not disclose at least one of the stopping faces being embodied as cone-shaped and having stair step profile (clm 15) or annular stair steps (clm 16 and 17).

Zoino teaches at least one of the stopping faces (27) being embodied as cone-shaped and having stair steps (58) for the purpose of allowing a load (force) to be taken at a gradually increasing rate those preventing sudden shock or strain in the system (C1). It is to be noted that a conical clutch and the stopping system in the instant application both relay on friction as a means of varying an output force.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Giandinoto and provide at least one of the stopping faces being embodied as cone-shaped and having stair steps, as taught by Zoino, for the purpose of allowing a load (force) to be taken at a gradually increasing rate those preventing sudden shock or strain in the system.

15. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al '477 in view of Gunner et al, EP0563410.

Re clms 22, Giandinoto discloses all of the claimed subject matter as described above.

Giandinoto does not disclose at least one of the stopping faces having a saw-tooth profile.

Gunner teaches at least one stopping face (41) having a saw-tooth profile (Fig 2) for the purpose of providing better interaction between surfaces and to reduce the wear between the wedge faces.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Giandinoto and provide a stopping face with a

saw-tooth profile, as taught by Gunner, for the purpose of providing better interaction between surfaces and reduce the wear between the wedge faces.

Response to Arguments

16. Applicant's arguments with respect to claims 1, 5, 6, 8-12 and 14 have been considered but are moot in view of the new ground(s) of rejection. It should be noted that the applicant has removed the limitation of the claim 1 on which the argument is based on ("single part").

17. In response to the applicants arguments (pg 8 last paragraph) that Giandinoto does not disclose that the block and the spring are formed as integral parts. The term integral is defined as elements which are connected in a manner "essential for completeness" (Webster's II New Riverside Dictionary). The term integral does not mean that the parts have to be formed as a single uniform member, integral only means that the parts have to be assembly in a way that they function together which Giandinoto clearly shows.

18. In response to applicant's argument that Giandinoto does not show that the wedge-shaped component "causes the elastic element to displace in a radial direction thereby maintaining an axial force sufficient to eliminate shaft longitudinal play" (pg 8 second paragraph). It is the examiner's position that Giandinoto clearly shows that the component 26 causes the elastic element to displace (depress) in a radial direction (as best understood Giandinoto shows that the wedge moves in a radial direction on the shaft) and is capable of maintaining an axial force sufficient to eliminate shaft longitudinal play.

19. The applicant argues that Gunner does not disclose a saw-tooth profile but rather a sine wave.

In response the examiner notes that a sine wave is a saw-tooth profile that doesn't have any points. The examiner agrees with the applicant that the saw-tooth profile shown by Gunner differs from that shown in the instant applicant, however the applicant is not claiming any structure that would distinguish the saw-tooth profile of the instant applicant over that of the prior art. Without any recitation of structure that makes the "saw-tooth profile" the term "saw-tooth profile" is a broad limitation.

20. The applicant argues that Zoino does not disclose a stair step profile but rather ridges.

In response the examiner agrees that Zoino does disclose ridges however, the ridges of Zoino are formed on an incline surface and moving from ridge to ridge it can be seen that Zoino does indeed, as broadly recited in the claim, a stair step profile. As broadly recited the term "stair step profile" means a profile that has a step change in height from step to step. Moving from ridge to ridge of Zoino it can be seen that there are step changes in height, therefore as broadly recited Giandinoto in view of Zoino meets the claim limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is (571) 272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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1.08.2006

RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER